

Message

From: Burdett, Cheryl [burdett.cheryl@epa.gov]
Sent: 8/29/2018 7:05:00 PM
To: Kuefler, Patrick [kuefler.patrick@epa.gov]; Bahr, Ryan [bahr.ryan@epa.gov]; Maraldo, Dean [Maraldo.Dean@epa.gov]
Subject: FW: Additional Work - ERG OCE PO No. 035202002 12 _Univ. Neb-Linc

I spoke with Dr. Daniel Snow, UNL and he said that he expects to get us the QA/QC report (description below) to us by Friday, August 31, 2018. He said that it will be the middle of September for the Interpretation of Isotope Results (description below).

If you have any questions for Dr. Daniel Snow his phone number is 402-472-9599.

Sincerely,

Cheryl Burdett

From: Daniel Snow [mailto:dsnow1@unl.edu]
Sent: Friday, July 27, 2018 3:22 PM
To: Burdett, Cheryl <burdett.cheryl@epa.gov>
Subject: Additional Work - ERG OCE PO No. 035202002 12 _Univ. Neb-Linc

Cheryl,

The additional work required for summarizing and reporting the quality assurance results plus interpretation of the nitrate isotope data in the context of nitrogen sources is expected to cost \$Ex. 4 CBI. Our normal overhead rate which is required for all research projects is Ex. 4 CBI of the direct project cost, so the additional charge is quite reasonable. Here is what I will include in the report:

Quality control report– Nitrate and isotope analysis

- 1) Sample custody, login and tracking forms
- 2) Summary of quality control samples run with statistics
- 3) Summary of raw instrumentation data
- 4) Copies of SOPs used in processing and analysis of samples

Interpretation of Isotope Results

- 1) Explanation of stable isotope analysis of nitrate, how it is measured and may be applied in groundwater. Discussion of expected ranges of nitrogen and oxygen isotope composition for nitrate due to sources and, expected effects from denitrification using information from scientific literature.
- 2) Plots of 15N-NO3 versus nitrate concentration for samples received compared to expected ranges based on sources and effect from denitrification.
- 3) Plots of measured 18O-NO3 versus 15N-NO3 compared to expected ranges based on sources and effect from denitrification.
- 4) Evaluation of any anomalous results.
- 5) Evaluation of isotope results in the context of other water chemistry data.
- 6) List of supporting references

You can send the new contract to Sheryl May SMay@unl.edu

Let me know if you need anything else. Thanks! -Dan

Daniel D. Snow, Ph.D.
Laboratory Director

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